

What is Claimed is:

1. A steerable catheter comprising  
an elongated catheter body secured to a  
proximal handle and having a distal end carrying at  
least one functional element,

5 a unitary spring structure for steering  
said distal end comprising at least two orthogonally  
arranged flattened sections bendable normal to  
flattened planes of said sections,

10 said flattened sections being axially  
displaced along the length of said spring structure  
thereby comprising a proximal flattened section and  
a distal flattened section,

15 at least one steering wire being attached  
to each flattened section to apply bending forces  
thereto,

a coil spring having a hollow interior  
lumen extending along the length of said catheter  
body, a distal end of said coil spring being affixed  
to said proximal flattened section,

20 at least one steering wire extending  
distally from said distal end, said wire being  
attached to said distal flattened section for  
application of bending forces thereto, said steering  
wire having a proximal end connected to means in  
25 said handle for application of pulling forces of  
said wire, and

at least one steering wire being attached  
to said proximal flattened section for exertion of  
bending forces thereon.

2. A steerable catheter comprising  
an elongated catheter body secured to a  
proximal handle and having a distal end carrying at  
least one functional element,

5 a distal steering assembly which includes

a section containing a preshaped wire, said wire being biased to bend said assembly into a curvilinear shape in a first plane, and

10       a second steering mechanism independent from said preshaped wire which enables bending said assembly in a second plane that is non-parallel to the bending plane of the preshaped section.

3. A catheter according to claim 2 wherein said preshaped wire is located proximally to said second steering mechanism.

4. A catheter according to claim 2 wherein said preshaped wire is contained within an introducer tube for introduction into a living body, wherein said introducer tube retains said preshaped wire in a generally linear orientation.

5       5. A catheter according to claim 1 wherein said unitary spring structure comprises two orthogonally arranged segments which are soldered together to form said unitary structure.

6. A catheter according to claim 1 wherein a pair of steering wires is attached to each of said orthogonally arranged flattened sections.

7. A catheter according to claim 1 wherein a guide tube containing at least one of steering wires is attached to a proximal one of said flattened sections.